

Appendix 3

Hallman ArthroCare Report

Expert Declaration of Dr. Greg Hallman

I. Introduction

1. I have been retained by counsel for the class plaintiffs in the ArthroCare Corporation Securities Litigation to calculate and provide an opinion on damages suffered by the class during the class period starting 12/11/2007 and ending 2/18/2009. Plaintiffs claim, among other things, that ArthroCare misrepresented its true condition by concealing its true business relationship with DiscoCare and by improperly accounting for sales of its surgical equipment made through DiscoCare and other distributors. Plaintiffs claim that the misrepresentations and false statements made by ArthroCare misled the public about the true state of the company in terms of the company's true revenues and expenses, and therefore the true worth of the stock, and that plaintiffs suffered harm when the concealments, misrepresentations, and improper accounting was at least partially revealed in ArthroCare's restatement announcements. I have also been asked to opine on the efficiency of the market in which ArthroCare stock traded during the class period. This report contains my preliminary calculation of per share damages suffered by the class in the class period, my preliminary conclusions regarding the efficiency of the market in which ArthroCare shares traded during the class period, and my preliminary opinion on damages to holders of ArthroCare options. All of my preliminary conclusions expressed in this report are based on the documents I have reviewed as of the date of this report. I intend to continue to review new material as it becomes available, and new material may lead me to change my calculations and/or conclusions.

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II. Qualifications

2. I am a Senior Lecturer in the Department of Finance at the McCombs Graduate School of Business at the University of Texas at Austin, where I teach MBA courses in valuation, corporate finance, investment theory, and real estate finance, and serve as the Director of the McCombs MBA REIT Fund. I also serve on the Advisory Committee of the McCombs MBA Investment Fund. I have won numerous teaching awards for my MBA finance classes at McCombs, including the Joe D. Beasley Award for MBA Teaching, the award for Best MBA Core Professor from the last two graduating MBA classes, and numerous selections to the MBA Teaching Honor Roll. Prior to joining the faculty at the University of Texas in 2002, I was a Managing Director in the Silicon Valley office of Intecap, Inc., an economic consulting firm purchased by Charles River Associates in 2004. I am currently a Senior Consultant with Charles River Associates, although Charles River Associates is not working with me on this matter. I have worked as a consultant on litigation matters for the past fifteen years, and I have calculated securities and valuation-related damages numerous times in my career both as a testifying expert and as support to a testifying expert. I have an MBA in Finance from Tulane University and a Ph.D. in Finance from the University of Texas at Austin. A copy of my current curriculum vitae (CV) is in Exhibit 1, which includes my professional presentations and publications, along with a complete listing of my prior testimony.

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III. Summary of Opinion

3. My trading volume analysis and statistical event study analysis shows a total statistically significant stock price decline of \$28.33 per share directly associated with ArthroCare's corrective disclosures contained in ArthroCare's restatement announcements on July 21, 2008 and December 19, 2008. The event study methodology isolates and measures the stock price decline associated only with ArthroCare firm-specific news contained in ArthroCare's two restatement announcements, and does not include any stock price decline related to either industry or market-wide price movements. The \$28.33 estimate of per share damages is less than the \$45.16 total decline in the stock price over the class period because the \$28.33 decline is measured only on and around ArthroCare's two major class period corrective disclosure restatement announcements (three trading days), and does not include stock price declines during the class period on trading days with "normal" volume, and stock price declines during the class period possibly caused by market or industry factors. Additionally, the \$28.33 statistically significant price decline does not include the \$4.78 statistically significant class period price decline of ArthroCare stock around the three trading days in January 2009 when ArthroCare stock was delisted from the NASDAQ exchange and began trading in the OTC market on the pink sheets.
4. Per share damages to the class are calculated as the losses suffered by the class when the market learned the truth that management had concealed regarding ArthroCare's business relationship with DiscoCare, and the fact that ArthroCare's previous publicly filed financial results and statements that investors had relied on were materially false and had to be restated. The \$28.33 per share sum of the statistically significant stock

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price declines from the event study analysis across the three trading days in the class period associated with the corrective disclosures contained in ArthroCare's two class period restatement announcements is a conservative and reasonable preliminary measure of per share damages suffered by the class.

5. Based on the stock price reaction and large trading volume on the major news event days during the class period, it is my opinion that the market for ArthroCare stock was semi-strong form efficient, at least for the class period 12-11/07 – 1/15/09 when ArthroCare stock traded on the NASDAQ stock exchange. ArthroCare stock traded on the NASDAQ exchange for all but the last month of the class period, or the last 26 trading days of the class period. I also analyzed the structural characteristics of the market in which ArthroCare stock traded as described in *Cammer*, along with additional factors regarding market efficiency established in case law after *Cammer* was decided.¹ The structural analysis of the market in which ArthroCare stock traded also supports my conclusion that trading in ArthroCare stock was semi-strong form efficient at least for the time that ArthroCare stock traded on the NASDAQ stock exchange.
6. Holders of ArthroCare options, specifically holders of long-call positions and short-put positions, also suffered damage to the value of their positions on the event dates where ArthroCare stock declined by a statistically significant amount. It is my understanding that ArthroCare had listed options traded on the Chicago Board Options Exchange (CBOE) during the class period. The CBOE is the largest options exchange in the United States. Stock options, including calls and puts, are derivative securities whose value “derives” from, or is dependent on, the value of the underlying stock. Universally

¹ *Cammer vs. Bloom*, 711 F.Supp 1264 (D.N.J. 1989)

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accepted option valuation formulas and methodologies such as the Black-Scholes Option Pricing Model and the Binomial Option Pricing Model both use the stock price as an important input to the calculation of the value of the stock option. In fact, a widely used metric of the price behavior of an option called the option's "delta", is calculated to represent the change in the value of the option associated with a one dollar change in the value of the underlying stock. Because stock option value and the value of the underlying stock are inextricably linked together, the statistically significant price declines experienced by ArthroCare stock on the event dates certainly caused related losses to ArthroCare option holders with either long-call or short-put positions.

IV. Background

7. ArthroCare manufactures and sells surgical equipment based on its patented Coblation technology, which uses low-temperature radiofrequency energy to dissolve soft tissue. ArthroCare's three primary business units are sports medicine, ear, nose and throat (ENT), and spine.
8. In the roughly two years prior to the start of the class period, 2006 and 2007, ArthroCare's financial statements showed impressive growth in sales, profit margins, and earnings per share. During most of 2006, ArthroCare's sales growth was led by its sports medicine and ENT divisions, while spine sales were a small segment of ArthroCare's overall business (~10%) that showed very little to no growth. ArthroCare's spine sales were significantly hampered by the fact that most major private insurers would not pay for the spinal surgery procedures involving ArthroCare's spinal equipment because many private insurers categorized the spine treatment involving

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ArthroCare's spine surgery equipment as experimental and without sufficient clinical basis.

9. On February 15, 2007, ArthroCare announced Q406 earnings, including the news that in Q406 sales in the spine division had grown 46% year-over year (i.e., Q406 spine sales were 46% larger than Q405 spine sales.)² ArthroCare's Q406 earnings news release stated, "Product sales growth was led by a particularly strong 46 percent increase compared to the fourth quarter of 2005 in the Company's spine business due to improved penetration, acceptance by the surgical community, and increased reimbursement."³
10. Stock analysts who followed and reported on ArthroCare were generally surprised by the strong sales growth in ArthroCare's spine unit. Susquehanna Financial wrote "The story for the quarter on the revenue side was driven by spine, where a much better-than expected performance offset slightly lower numbers in the company's other units. Sports medicine sales (core and Opus) grew 11% Y/Y versus our 15% estimate, ENT sales grew 25% versus our 30% estimate, and spinal sales grew 46% versus our 5% estimate."⁴ Piper Jaffray wrote, "Growth slows in Sports and ENT; Spine Shines.... Spine hit a high note with 46% growth. Adoption of percutaneous discectomy and improving reimbursement appear to be behind the strong result."⁵ Needham & Company wrote, "Spine revs of \$8.1M showed the first signs of strong growth. Spine

² ArthroCare News Release, February 15, 2007, "ArthroCare's Fourth Quarter 2006 Revenues Reach \$69.8 Million", DEKALB002625.

³ Ibid

⁴ Susquehanna Financial Group, February 15, 2007, "2007 Reflects Ambitious Goals for New Products, Investments, and Growth."

⁵ Piper Jaffray, February 16, 2007, "4Q In Line; 2007 Outlook Remains Unsettled."

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revenues in 4Q06 benefited from the addition of sales reps in 2H06. Confidently, ARTC expects Spine to grow at least 50% in 2007. Revenue increases are expected to benefit from widespread reimbursement. We are increasing our Spine rev estimates.”⁶ BMO Capital Markets wrote, “...spine up 46% (a significant rebound from anemic single-digit growth),” and “In 2007, management forecasts spinal revenue growth of at least 50% led by continued improvements in the reimbursement environment, supported by positive clinical studies...Our expectations are for 45.4% growth in 2007 and 45% in 2008, following on the heels of 15.6% in 2006.”⁷

11. Throughout 2007 the spine segment was ArthroCare’s fastest growing business segment, posting year-over-year growth of 58% in Q107, 72% in Q207, and 95% in Q307.⁸

During 2007, sales growth in ArthroCare’s sports medicine and ENT equipment slowed from their growth rates in 2006, and both management and investors looked to spine sales to keep up ArthroCare’s publicly announced overall sales growth targets of 20% per year. Additionally, because profit margins on spine sales were higher than profit margins on sports and ENT sales, ArthroCare’s overall profit margin benefited from the strong growth in spine sales. Analysts noted that during 2007 ArthroCare’s spine division drove the company’s sales growth and profit margin growth. Piper Jaffray wrote in their October 23, 2007, ArthroCare report, “Mix shift to Spine drives gross margin improvements;” and “Spine driving the top line. Spine recorded another spectacular quarter with 95% y-o-y growth”, and “Mix shift lifting gross margins.

⁶ Needham & Company, February 15, 2007, “New Business Unit Created; Spine Growth is Strong; More OPUS Competition Expected.”

⁷ BMO Capital Markets, February 16, 2007, “4Q as Pre-Announced, 2007E Lowered as ARTC Invests.”

⁸ ArthroCare earnings releases, DEKALB002633, DEKALB002640, and DEKALB002645.

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Product gross margin was 71.9% in 3Q07, a 4 point improvement over 3Q06, thanks to a mix shift to Spine.”⁹

12. In December 2007 allegations were made in the press regarding ArthroCare’s spine business and ArthroCare’s business relationship with DiscoCare. On December 11, 2007, The New York Post printed an article raising issues about the following: (1) ArthroCare’s business relationship with DiscoCare, (2) connections between DiscoCare executives, a South Florida personal-injury law firm named Steinger, Iscoe & Greene, and The Palm Beach Lakes Surgery Center, and (3) ArthroCare’s reliance on DiscoCare in receiving reimbursement for ArthroCare’s spinal treatment equipment.¹⁰ The stock market reacted quickly to the allegations raised in the New York Post article. Reported trading volume in ArthroCare stock on 12/11/07 was 5.27 million shares, versus an average reported daily trading volume in the pre-class portion of 2007 (1/3/07-12/10/07) of approximately 485 thousand shares,¹¹ and ArthroCare’s stock price declined by \$2.19 (-4.2%) on December 11, 2007.

13. On December 14, 2007, three days after the appearance of the New York Post story, ArthroCare put out a news release announcing a stock buyback and stating that the New York Post article, “alleging that one of the company’s reimbursement service providers may have engaged in inappropriate business practices”, contained numerous material

⁹ PiperJaffray, October 23, 2007, “Good 3Q and Guidance; Operating Leverage Reemerging”

¹⁰ *New York Post*, by Roddy Boyd, December 11, 2007, “Surgical Device Maker’s Growth Fueled by Another Company”, DEKALB008779-80.

¹¹ Arthrocare stock traded on the NASDAQ for all but the last 26 trading days of the class period. Throughout this report, I quote unadjusted reported volume taken from Bloomberg. Primarily because of the market-maker mechanics of NASDAQ trading, reported NASDAQ volume is often reduced by ~ 50% when volume numbers are used in the calculation of class damages in a trading model. I use unadjusted reported volume in this report because any adjustment to volume would be linear, and the relative volume comparisons I make in this report would be unaffected by a linear volume adjustment.

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inaccuracies.¹² ArthroCare stated that they intended to contact the publisher of the article to request a correction of the factual inaccuracies contained in the article.

Regarding DiscoCare, CEO Michael Baker is quoted saying, "We have carefully reviewed the business practices of our service provider and have found no evidence of anything improper in their activities." Trading volume in ArthroCare stock on the date of ArthroCare's news release on December 14, 2007 denying the allegations in the New York Post story was also relatively heavy at 2.29 million shares, and ArthroCare's stock price increased \$1.49 (+3.0%) on a day that both the S&P 500 and other names in ArthroCare's medical technology industry declined.

14. Stock analysts following ArthroCare had mixed reactions to the allegations raised in the New York Post article and ArthroCare's denials of the allegations in the New York Post article. As reported in a December 17, 2007, article on StreetInsider.com, an analyst at Piper Jaffray estimated the overall impact from DiscoCare to be relatively small, and said that the recent decline in the stock price associated with the story presented a buying opportunity, and maintained the firm's Buy rating on ArthroCare stock. William Blair and Company wrote in their December 14, 2007 report regarding the New York Post story, "...we believe the article was a lot of smoke and not much fire as it relates to ArthroCare's role in any fraudulent billing or inappropriate patient selection. If there was anything unethical going on, we believe it would be unlikely that it would come from ArthroCare. We believe this all stems from investors who are short the stock."

Oppenheimer and Company wrote in their December 17, 2007 report that they were

¹² ArthroCare News Release, December 14, 2007, "ArthroCare to Repurchase up to \$75 million of Common Stock. The Company is Also Seeking A Correction to Inaccuracies That Appeared in a Recently Published Article and Reconfirms Its 2007 Estimates", DEKALB002654-55.

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“skeptical” of the New York Post story.^{13,14} However, Susquehanna Financial downgraded ArthroCare from Positive to Neutral, saying health insurers are not covering ArthroCare’s spinal technology.¹⁵ The Susquehanna Financial report of December 16, 2007, stated, “...while we note the spine business is not all that large for ARTC (about 15% of total sales), it is highly profitable and has been the strongest growth division over the last several years...,” and, “Spine Still Small Overall, but Sales Growth and Margin Driver.”¹⁶

15. On January 3, 2008, ArthroCare announced that it had acquired DiscoCare, “a third-party billing and reimbursement service provider, for \$25 million in cash plus potential future milestone payments.”¹⁷ The news release further stated, “The Company noted that it currently uses DiscoCare of Margate, Fla., to provide reimbursement support in its Spine business on a contract basis. The company believes that DiscoCare has been successful because it helps health providers follow conservative treatment regimens and maintain rigorous medical records.”

16. Stock analysts who followed ArthroCare had generally favorable reactions to the announced DiscoCare acquisition. Many analysts believed that the DiscoCare acquisition was a positive for ArthroCare, and some analysts stated that ArthroCare’s acquisition of DiscoCare was a strong signal of ArthroCare’s belief that there were no

¹³ William Blair & Company, December 14, 2007, “Repurchase of up to \$75 million of Outstanding Common Stock”, William Blair 00201-03.

¹⁴ Oppenheimer & Company, December 17, 2007, “Company Refutes Article and Issues Buyback”

¹⁵ *StreetInsider.com*, December 17, 2007, “ArthroCare (ARTC) Becomes a Battle-Ground Stock”, DEKALB001132.

¹⁶ Susquehanna Financial, December 16, 2007, “Moving to the Sidelines Into 2008”

¹⁷ ArthroCare News Release, January 03, 2008, “ArthroCare Acquires Reimbursement Service Provider, Reaffirms 2007 and 2008 Guidance”, DEKALB002656-57.

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problems with DiscoCare. Oppenheimer wrote about the DiscoCare acquisition in their January 4, 2008 report, stating,

We believe this acquisition ‘proves’ what we have been hypothesizing for several weeks – DiscoCare is not involved in fraud and the negativity surrounding this company was likely due to individuals in a position to gain from a fall in ARTC’s stock price. If DiscoCare had been involved in illegal activities, we would think ArthroCare would want to distance itself from the entity rather than acquire it. ARTC’s management held a long conference call, during which it alleviated negative sentiment. According to management, DiscoCare never committed any illegal acts, does not bill insurance companies, the recent article in the NY Post was materially false and the paper has indicated it will publish a retraction,...¹⁸

However, not all stock analysts following ArthroCare had a completely favorable view of the DiscoCare acquisition. In their January 4, 2008 report, Susquehanna Financial wrote of the DiscoCare acquisition,

Although this purchase may be interpreted as a vote of confidence from ARTC, we still believe that there are a number of uncertainties surrounding the recent expansion in the spine business, and overall, we were somewhat surprised by the deal and its timing. We are not exactly sure what the ‘special sauce’ and/or unique assets at DiscoCare are,...¹⁹

BMO Capital Markets downgraded ArthroCare in their January 10, 2008 report, stating,

We do not believe the company’s reimbursement practices are inappropriate or illegal. But we have a hard time understanding the rationale and timing behind the DiscoCare acquisition and the acquisition price.²⁰

¹⁸ Oppenheimer, January 4, 2008, “Management Alleviates Negative Sentiment Surrounding Recent Publicity”

¹⁹ Susquehanna Financial, January 4, 2008, “A Surprise Disco Deal to Start 2008”

²⁰ BMO Capital Markets, January 10, 2008, “Nowhere to Go Amidst Continued Noise; Downgrading to MARKET PERFORM”, BMO000001-04.

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17. On January 7, 2008, an article posted in Citron Reports by Mr. Andrew Left questioned the purchase of DiscoCare by ArthroCare, and alleged a cover-up motive to

ArthroCare's acquisition of DiscoCare, stating,

Citron believes that ArthroCare purchased DiscoCare to cover up a relationship that is predicated on fraud and deception. It is Citron's belief that DiscoCare and ArthroCare have been 'partners' by design: partners in a scheme to supply medical devices to doctors who prey on minorities and the financially disadvantaged, for the purpose of bilking money from insurance companies...

18. The series of stories produced by Mr. Andrew Left at Citron Research, and often republished on the Seeking Alpha website, contained detailed allegations, often with supporting documents embedded, regarding the business dealings and business relationship between DiscoCare and ArthroCare, and the "DiscoCare Model" of seeking reimbursement for ArthroCare's spinal surgery equipment involving ArthroCare, DiscoCare, plaintiff-injury lawyers, and The Palm Beach Spinal Surgery Center. Mr. Left published approximately fifteen to twenty reports on ArthroCare over the period December 2007 to July 2008.

19. In February 2008 Fortune published an article describing ArthroCare's battle with Mr. Left, in which ArthroCare CEO Michael Baker is quoted defending ArthroCare.²¹ From page two of the February 6, 2008 Fortune article,

For his part, CEO Baker angrily defends his company's relationship to DiscoCare. 'We were in the middle of negotiations to buy [DiscoCare] when all these rumors and weird questions surfaced,' he told Fortune. 'We looked into them and found nothing, absolutely nothing,' adding that he had a team of lawyers and analysts pore over the company and found nothing untoward or wanting.

²¹ *Fortune*, February 6, 2008, "A company battles the short-sellers", DEKALB008620-22.

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20. A February 3, 2008, article in the Austin American-Statesman also described the war of words between short-seller Andrew Left and Michael Baker, CEO of ArthroCare.²² The Statesman article reported, “ArthroCare has been under assault by short-sellers who have been raising questions about its marketing practices and its relationship with an insurance reimbursement company it recently acquired.” The article also stated, “Although many analysts say they don’t believe Left’s charges, some have downgraded the shares, saying investors shouldn’t buy as long as the company is under a cloud of controversy.” ArthroCare again denied Mr. Left’s accusations related to DiscoCare, with the Statesman article quoting CEO Michael Baker,

ArthroCare has denied accusations of impropriety in conference calls with analysts and investors. In December, the company bought back \$75 million of his stock to prop up the price. ‘We are dead certain we’re not doing anything improper,’ chief executive Mike Baker said in an interview, adding that he spends hours on the phone each day trying to fight the latest rumor. He says Left’s charges are ‘the most salacious kind of garbage you can possibly find.’ But with short-sellers, he said, ‘it doesn’t matter if your story is true or not. It just has to be difficult to disprove.’

21. On March 3, 2008, with ArthroCare stock down roughly 20% since the New York Post article on December 11, 2007, ArthroCare announced that it had retained Goldman Sachs to help it consider strategic alternatives to enhance shareholder value, with possibilities including recapitalization, stock repurchase, sale of corporate assets, and/or a strategic business combination (i.e., sale to another company or private equity fund).²³ Regarding the possibility of an acquisition of ArthroCare by another firm in the medical

²² Austin American-Statesman, February 3, 2008, byline Lilly Rockwell, “Austin’s ArthroCare under Web assault.”

²³ Susquehanna Financial, March 3, 2008, “Surprise Announcement; What’s Going On at ARTC?”

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technology industry, Susquehanna Financial wrote in their March 3, 2008 report on ArthroCare,

Given the scrutiny around ARTC's spine business and reimbursement methodologies (including the operations of DiscoCare in spine and DRS in sports med) of late, we have to assume that many of the larger blue-chip medtech names would want to remain cautious here – and at a minimum have definitive answers before initiating any transactions. As we have noted in the past, the spine business remains a small part of ARTC, and while DRS appears to be functioning in a similar manner in sports med, Goldman could nonetheless likely come up with several other ways to bolster the stock – but in the end, we still think more details will likely have to emerge, which keeps us – and potentially the most-likely buyers – at bay.

Later in the same report, Susquehanna wrote regarding their overall reaction to the news,

While the stock is down of late (it's been a rather tough tape for the small cap healthcare group recently and equities in general), the company has still adamantly defended all of its business practices – and we are slightly confused by the timing and the wording of this morning's announcement. First and foremost, why do you need to consider selling the company and why now if nothing is or ever was going on? ... Again, the announcement and its timing seems fairly strange to us (like the DiscoCare transaction seemed in early January).

22. On March 4, 2008, Piper Jaffray published a report on ArthroCare stating that

ArthroCare's timely 10K filing for 2007 and the retention of advisors (Goldman Sachs) were both positive signs for the stock, and reiterating their Buy recommendation on ArthroCare stock.²⁴ The Piper reports states,

Sign-off from Big Four auditor. ArthroCare filed a timely 10K for 2007 on Friday. We believe the filing should be a positive for the stock as it will help defuse some of the allegations of accounting and reimbursement fraud. We believe the filing of the 10K in and of itself is an indication that there is no accounting fraud at ArthroCare. The company is audited by

²⁴ Piper Jaffray, March 4, 2008, "Timely 10K, Retention of Advisors Both Positive"

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PriceWaterhouseCoopers (PWC), a Big Four accountancy that presumably would not sign off on the filing if it suspected anything fraudulent.

No investigations in Spine or DiscoCare. In the filing, the company said it is not aware of any investigations into the Spine business or DiscoCare. The only disclosure was a request from the NASDAQ Stock Exchange regarding DiscoCare.

23. Canaccord Adams reported in their April 9, 2008 Investment & Trading Update on ArthroCare that ArthroCare stock was down 40% from its high on concerns involving DiscoCare, even though ArthroCare had reported numerous pieces of good news.²⁵ The April 9, 2008, Canaccord report states,

ArthroCare shares have been on a downward spiral through much of the Q4/07 since its high of US\$65.70 on 1 November 2007. Continued scrutiny over the company's relationship with DiscoCare has driven the stock down nearly 40% since its peak despite positive guidance for F08, the hiring of Goldman Sachs to review strategic alternatives, a share buyback, and news that the NASDAQ inquiry into DiscoCare concluded without any negative findings. ...

We believe the spine business will be the primary driver for ArthroCare achieving 20% top-line growth in 2008, with the driver being DiscoCare. That being said, questions continue to be raised regarding the long-term sustainability of DiscoCare's model and whether DiscoCare has been involved in any impropriety.

We believe that ArthroCare will report in-line results for Q108, but warn investors that we believe investigations by insurers into the utilization of the percutaneous disc decompression wand (PDD) could present significant downside risk in the back half of the year should payers turn off the reimbursement spigot.

²⁵ Canaccord Adams, April 9, 2008, "Investment and Trading Update", CAN 005859-60.

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24. ArthroCare announced Q108 earnings on April 21, 2008.²⁶ In the earnings call with analysts on the same day, Bear Stearns stock analyst Daj Denhoy asked ArthroCare CEO Michael Baker about DiscoCare. Mr. Denhoy's question and Mr. Baker's response is presented below.

Daj Denhoy, Bear Stearns – Then I'll just ask one more; I hate to bring it up, but you did mention that the DiscoCare issues in your mind are largely behind the Company and that there are no pending or inquiries that you're aware of, any existing or pending inquiries. If you believe what you read, and you probably shouldn't too much, there are a number of lawsuits that are out there pending potentially. Does anything out there give you any concern right now? Is there anything that's consuming your time on that front still?

Michael Baker – No. As far as we're concerned, the NASDAQ inquiry was very comprehensive and completely closes the issue.... But if you read what's in the lawsuit, it is publicly available, and then you read our 10-K, you'll realize that what they're alleging is factually incorrect.²⁷

25. William Blair's ArthroCare report at April 22, 2008, noted that ArthroCare's Q108 financial results were strong.²⁸ William Blair also wrote regarding the headline risk at ArthroCare and the overall situation with DiscoCare,

At this point we find it interesting that the headline risk may be shifting more toward the short sellers and away from the long investors in this name, with the company poised to announce the outcome of its strategic and financial alternatives review. With over 50% of the float short, any takeout of the company would put the shorts in a bad spot, and we believe even a leveraged recapitalization would probably cause the stock to move higher. Of course, this is offset by the fact that we still cannot dismiss or provide any details at all into the likelihood of an investigation by a state attorney general or a federal agency such as the Office of Inspector General of Department of

²⁶ ArthroCare News Release, April 21, 2008, "ArthroCare's First Quarter Product Sales Increases 25 Percent, Net Income Increases 30 Percent", DEKALB00267174.

²⁷ ArthroCare Corporation Q1 2008 Earnings Call Transcript, DEKALB008789-803, specifically DEKALB008797.

²⁸ William Blair & Company, April 22, 2008, "Sports Medicine Leads the Way to Upside in First Quarter But Is It Enough?", William Blair 00309-320, specifically William Blair 00312.

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Justice. If this were to occur, regardless of what the ultimate finding was, the stock would clearly suffer yet another leg down, even from these depressed valuations. As such, we think this has now turned into an old-fashioned game of chicken between the shorts and longs that will ultimately come down to either a positive announcement from the company regarding its future or an investigation into the company's business practices.

As we have said since this saga began, at the end of the day investing in ArthroCare comes down to a decision that every investor must make about management. Either you believe them or you don't. For now, our review of the situation surrounding DiscoCare (which is probably less than \$20 million in revenues on a base of \$385 million) continues to lead us to the conclusion of believing management.

26. Throughout late spring and into early summer 2008, accusations related to DiscoCare and reimbursement issues in general continued to follow ArthroCare. On June 12, 2008, Williams Capital reduced their rating on ArthroCare to Sell, and increased their risk rating to High, stating, "...we are increasingly concerned that something is amiss at ArthroCare", and "Our February rating reduction was based on our concerns over the **opportunity** for impropriety. Based on our new analysis, we see **increasing indications** that impropriety may have occurred and that there is meaningful risk of a write-down in the future."²⁹ On June 23, 2008, BMO Capital Markets downgraded ArthroCare to Underperform, stating, "... there is a mind boggling short position (70%) on the stock", and, "...if the accusations regarding impropriety are real, or if the chinks in the 1Q financial results lead to missed expectations, the stock is likely to drop."³⁰ However, in their June 25, 2008, report, Needham and Company reiterated their Strong Buy recommendation and their \$80 price target for ArthroCare stock (then trading at

²⁹ Williams Capital Group, June 12, 2008, "An Increasing Enigma – Reducing to Sell"

³⁰ BMO Capital Markets, June 23, 2008, "Downgrading ARTC to UNDERPERFORM", BMO000199-208.

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\$44.68),³¹ and on July 17, 2008, Canaccord Adams upgraded their recommendation on ArthroCare stock to Buy from Hold.³²

27. On July 21, 2008, ArthroCare made its first restatement announcement of the class period.³³ ArthroCare announced that it would

...restate its financial statements for the years ended December 31, 2006 and 2007, the quarters ended September 30, 2006, December 31, 2006, each of the quarters of 2007 and the quarter ended March 31, 2008 as a result of the determination by the Audit Committee of the Board of Directors on July 20, 2008 that the financial statements for such periods can no longer be relied upon. The restatement follows a recommendation by management that revenue in these previously issued financial statement should be adjusted because: the relationship between the Company and DiscoCare, Inc. during the periods being restated was a sales agent relationship, rather than that of a traditional distributor; and that the sales price of products sold to State of the Art Medical Products, Inc. ("SOTA"), Boracchia & Associates and Clinical Technology, Inc. cannot be considered fixed or determinable upon shipment by ArthroCare during the periods being restated.

ArthroCare's restatement announcement had an immediate and dramatic impact on the stock price. Reported trading volume in ArthroCare stock on July 21, 2008, was 14.6 million shares, more than thirty times (30X) larger than the pre-class period 2007 average daily trading volume of 485 thousand shares, and ArthroCare's stock price declined by \$16.82 (-42%).

28. Upon hearing the restatement announcement, many stock analysts following ArthroCare immediately changed their price targets, their recommendations, or both. Needham and Company lowered their rating to Hold from Strong Buy and lowered their 2008 and

³¹ Needham & Company, June 25, 2008, "ARTC: Reiterate Top Pick with Strong Buy and \$80 Price Target"

³² Canaccord Adams, July 17, 2008, "Upgrading to Buy from Hold; Raising Target to \$48.00 from \$41.50; Valuation Compelling; Private Equity Transaction Possible", CAN 005795-808.

³³ ArthroCare Corp, 8-K, July 21, 2008, DEKALB002290.

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2009 estimates for ArthroCare's sales and profits, citing spine revenue uncertainty and risks with distributors.³⁴ Canaccord Adams reduced their price target to \$45.50 from \$48, and maintained their Buy rating on the belief that ArthroCare was a prime target for private equity, and the belief that the announced restatements could be a condition of sale.³⁵ William Blair lowered their rating to Market Perform, and wrote,

Given the controversy around this name we were very surprised and disappointed that this release was not associated with a conference call. It seems to us a call would be a given, but management indicated that their legal counsel would not permit a call to take place. We do not believe this is a satisfactory answer for an investor base that has stuck with the company over what has been a very difficult time.³⁶

William Blair lowered their 2008 sales and profit targets but temporarily pulled their estimates for 2009 due to lack of visibility. Regarding trading multiples and valuation of the stock, William Blair wrote,

At this point, we believe valuation metrics like these are somewhat irrelevant, as there is little to no basis for the new estimates as we have no idea what the actual effect to 2008 revenue and income is from Monday's announcement. We have no ratios for 2009, as we suspended our 2009 estimates for the time being.

29. BMO Capital Markets lowered their EPS estimates and overall price target to \$23 from \$38 (ARTC was then trading for \$23.21), but raised their rating on ArthroCare stock from Underperform to Market Perform. BMO's report raised numerous questions

³⁴ Needham & Company, July 21, 2008, "Lowering Rating to Hold from Strong Buy; Lowering Estimates as Company Plans to Restate Financials"

³⁵ Canaccord Adams, July 22, 2008, "Restating Financial Statements: We Think Uncertainty Creates Opportunity; Maintain Buy and Adjust Target to \$45.50 from \$48", CAN 005767-80.

³⁶ William Blair & Company, July 22, 2008, "Restating of Financial Statements Brings More Uncertainties; Lowering Rating to Market Perform", William Blair 00328-33.

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regarding ArthroCare's restatement announcement. Under the heading "**What does all of this mean? And what do we still not know?**", BMO wrote,

- To quote Sir Walter Scott: 'Oh what a tangled web we weave, when first we practice to deceive.' With this piece of information in the public domain, what is left is the question of what else is out there, is there another shoe to fall, and how significant is it?
- While the company shared information regarding the revenue impact, unfortunately it did not give us the operating impact – which we anticipate will be significant.
- What does this announcement mean for other distributor relationships?...
- How much of the revenue restatement has to do with spine...sports medicine...ENT?
- How much of the questionable DiscoCare practices (e.g., reimbursement upcharging) that Citron has alleged are true, and what legal ramifications does that hold for the company?

30. News stories about ArthroCare's July 21, 2008, restatement announcement mentioned ArthroCare's relationship with DiscoCare and the short sellers who had been warning about ArthroCare's relationship with DiscoCare. A July 21, 2008, article on TheStreet.com reported,

ArthroCare blamed its controversial relationship with DiscoCare, a firm that specializes in selling the company's SpineWands, for part of the problem. Specifically, ArthroCare said it should have treated DiscoCare as a 'sales agent' for the company rather than as a traditional distributor. Moreover, ArthroCare said it had improperly accounted for its late-2007 acquisition of ArthroCare as a 'business combination' since the firm acted as a sales agent for the company already.³⁷

A July 22, 2008, article in the Austin American-Statesman included a description of the long battle ArthroCare and CEO Michael Baker had with Andrew Left,

Several attempts to contact ArthroCare Chief Executive Mike Baker on Monday were unsuccessful.

³⁷ TheStreet.com, byline Melissa Davis, July 21, 2008, "ArthroCare's Bungle Bashes Buyout Hope", DEKALB008768-70.

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Starting in December 2007, Andrew Left, a well-known short-seller, began questioning ArthroCare's relationship with DiscoCare Inc., a reimbursement company. Left said the company used incorrect insurance coding during surgical procedures and pushed patients into unnecessary back surgeries. ArthroCare denied the claims, and in January bought DiscoCare for \$25 million. At the time, Baker said the company is 'dead certain we're not doing anything improper.'

Left's claims, and the amount of short interest in the stock, sent the shares down 40 percent in a three-month period, dropping from \$64.84 on Nov. 1 to \$39.30 on Feb. 1.³⁸

31. Bad news continued for ArthroCare following their restatement announcement on July 21, 2008. On August 13, 2008, Williams Capital reduced their 2008 and 2009 revenue estimates and reduced their price target to \$17 from \$34 (ARTC was then trading at \$21.48).³⁹ On October 1, 2008, Susquehanna Financial reported that the Centers for Medicare and Medicaid Services (CMS) had issued a noncoverage determination for thermal intradiscal procedures (TIPs), which specifically included ArthroCare's PDD spinal procedure.⁴⁰ On November 13, 2008, Canaccord Adams reduced their price target on ArthroCare stock to \$23 from \$45.50, based on a 1.6x EV/sales multiple applied to their 2009 revenue estimate.⁴¹
32. On December 19, 2008, ArthroCare made a second restatement announcement, expanding the periods covered by the July 21 restatement announcement and withdrawing its estimates of the ranges of the effects of the restatements that it made in

³⁸ Austin American-Statesman, byline Lilly Rockwell, July 22, 2008, "ArthroCare overstated revenue by millions; stock down sharply"

³⁹ Williams Capital Group, August 13, 2008, "Thoughts Since Restatement News – Reducing Estimates/Target"

⁴⁰ Susquehanna Financial Group, October 1, 2008, "CMS Not Buying PDD Either, Issues a National Noncoverage Determination"

⁴¹ Canaccord Adams, November 13, 2008, "Understanding the Near-Term Catalysts for ArthroCare; Maintaining Buy and Lowering Target to \$23.00 from \$45.50", CAN 005781-94.

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the July 21 restatement. ArthroCare announced that the improper accounting it discovered in its analysis and review would,

...require adjustment to the Company's historical financial statement such that the restatement will now include the years ended December 31, 2000 through 2005, in addition to the previously announced years ended December 31, 2006 and 2007, and will now include all quarters in those years and the quarter ended March 31, 2008. Management has determined that the errors identified to date by the Review and by management in its separate analysis can collectively be categorized into four areas: revenue recognition, expense reclassification, purchase price allocation and/or intangible asset impairments in connection with the Company's acquisition of DiscoCare, and foreign exchange translation.⁴²

Additionally, ArthroCare announced the resignation of three officers of the Company, including Michael Gluk, CFO, and the receipt of two subpoenas for the production of documents relating to DiscoCare, Inc.

33. Two of the stock analysts that had continued publishing reports on ArthroCare after the first July 21, 2008 restatement announcement, William Blair & Company and Sidoti & Company, immediately dropped coverage of ArthroCare following the December 19, 2008 restatement announcement, citing the lack of historical revenue and earnings information and lack of visibility into earnings.^{43,44} Canaccord Adams downgraded their rating to Sell, and assigned a fair value of \$4.00 to the stock, "...with many assumptions based on inaccurate financial statements."⁴⁵ Susquehanna Financial wrote, "It is now clear that multiple improprieties were taking place at ArthroCare and it will

⁴² ArthroCare Corp, 8-K, December 19, 2008, "ArthroCare Announces Expansion of Periods Covered by Restatement of Financial Statements and Withdrawal of Previously Disclosed Anticipated Adjustments; Management Changes; Subpoenas for Production of Documents", DEKALB002279-83.

⁴³ William Blair, December 19, 2008, "Dropping Coverage as a Result of Recent Events", William Blair 00337-39.

⁴⁴ Sidoti & Company, December 19, 2008, "Drop Coverage of ArthroCare Corporation"

⁴⁵ Canaccord Adams, December 19, 2008, "What Can you Say? Downgrade to Sell"

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likely be some time before all the dust settles.”⁴⁶ Regarding the accounting errors mentioned in the December restatement announcement, Susquehanna wrote, “Specifically, one of the accounting errors highlighted today stated that some improper transactions were ‘primarily quarter-end transaction and were frequently structured in an effort to meet revenue forecast,’ which sounds a lot like fraud to us.”

34. News stories regarding ArthroCare’s second restatement announcement of December 19, 2008, were also extremely negative. An article in the Austin American-Statesman contained quotes from Susquehanna Financial analyst David Turkaly and BMO Capital Markets analyst Joanne Wuensch,

‘It’s about as bad a press release as you can ever read,’ said David Turkaly, an analyst with Susquehanna Financial Group, which owns ArthroCare shares. ‘The liabilities associated with what they’ve said and what has turned out to be true could exceed what they could withstand as a company.’

He said the eight-year restatement is the worst he had heard of in the medical device industry.

It’s difficult to assess ArthroCare’s future, analysts said, because eight years of financial data are now suspect and the company hasn’t released any quarterly results since April.

‘It’s a black hole right now. Eight years of financials that we have been looking at are useless,’ BMO Capital Markets analyst Joanne Wuensch told Reuters.

Another unknown is the size and scope of the legal battles ArthroCare is facing, Turkaly said. A lawsuit related to accounting problems was filed in April.

⁴⁶ Susquehanna Financial Group, December 19, 2008, “One Year Later, The Shoe Store Drops; Management Credibility Severely Hampered”

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‘They are going to face litigation. They have been saying things that contradict reality,’ he said. ‘A lot is up in the air.’⁴⁷

The Statesman article also reported, “In January, Baker told the American-Statesman, ‘we are dead certain we’re not doing anything improper.’”

35. On January 15, 2009, ArthroCare announced that it had received a letter from the NASDAQ stating that ArthroCare’s stock would be delisted from trading on the NASDAQ exchange effective at the open of trading on Friday, January 16, 2009.⁴⁸ ArthroCare began trading on the pink sheets on January 16, 2009.

36. Three more analysts dropped coverage of ArthroCare soon after ArthroCare’s delisting from the NASDAQ on January 15, 2009. Williams Capital Group dropped coverage of ArthroCare on January 16, 2009,⁴⁹ BMO Capital Markets dropped coverage on January 20, 2009,⁵⁰ and Piper Jaffray dropped coverage on January 22, 2009.⁵¹

37. Approximately a month after ArthroCare’s delisting from the NASDAQ, on February 18, 2009, ArthroCare announced that a review being conducted by the Audit Committee had identified certain improper practices in the insurance billing and healthcare compliance practices associated with the Company’s Spine Business Unit.⁵²

Additionally, ArthroCare announced the departure, effective immediately, of Michael A. Baker from his position as the Company’s President and Chief Executive Officer, and

⁴⁷ Austin American-Statesman, byline Lilly Rockwell, “ArthroCare to restate 8 years of results”

⁴⁸ ArthroCare Press Release, January 15, 2008, “ArthroCare Receives NASDAQ Delisting Notice”, DEKALB002692.

⁴⁹ Williams Capital Group, January 16, 2009, “Dropping Coverage due to NASDAQ Delisting”, WCG 000315-17.

⁵⁰ BMO Capital Markets, January 20, 2009, “Dropping Coverage”, BMO000139-43.

⁵¹ Piper Jaffray, January 22, 2009, “Discontinuing Coverage”

⁵² ArthroCare Corp, 8-K, February 19, 2008, “ArthroCare Announces Review of Insurance Billing Practices; CEO Departure and Management Changes; Investigations by SEC and US Attorney Offices in Florida and North Carolina”, DEKALB002699-700.

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announced a number of investigations. ArthroCare announced that the SEC had issued a formal order of investigation and now had the authority to subpoena witnesses and documents, and said that the Company had been informed by the United States Attorney's office in the Southern District of Florida that the Company and its DiscoCare subsidiary were targets of an investigation being conducted by that United States Attorney's office and had also been informed that the United States Attorney's office in North Carolina was conducting a separate investigation of the Company, which was related to that being conducted in the Southern District of Florida. This February 18, 2009 disclosure, related primarily to improper insurance billing practices, and again, DiscoCare, marks the end of the class period. On February 18, 2009, ArthroCare stock closed on the pink sheets at \$4.50, \$45.16 lower than ArthroCare's \$49.66 opening price on December 11, 2007, the start of the class period, representing a 91% decline in the value of ArthroCare stock over the class period.

V. Methodology and Bases for Opinion on Damages and Loss Causation

38. I read numerous analyst reports on ArthroCare stock by Piper Jaffray, Needham & Company, Susquehanna Financial Group, SMH Capital, Oppenheimer & Company, Stanford Group Company, William Blair & Company, BMO Capital Markets, Broadpoint Capital, Lazard Capital Markets, Canaccord Adams, Gradient Analytics, Williams Capital Group, Bear Stearns, and Sidoti & Company, over the period 2004 – 2009, which precedes and includes the class period 12/11/2007 – 2/18/2009. All fifteen of these analysts published coverage on ArthroCare during the class period. Additionally, I read numerous news stories related to ArthroCare from sources including

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AP Newswires, Dow Jones News Service, The Austin American-Statesman, Reuters News, CFO.com, Zacks.com, StreetInsider.com, Seeking Alpha, Citron Reports, Fortune, and The Street.com over the period 2004 – 2009, which precedes and includes the class period 12/11/2007 – 2/18/2009. I read all of ArthroCare's press releases during the period 2006 – 2009. I also read the Consolidated Class Action Complaint filed December 18, 2009. A complete compilation of the analyst reports and news stories I read and considered is being provided on DVD to defense counsel.

Identification of News Days and Event Study Analysis

39. While numerous allegations and management denials and analyst comments on ArthroCare were made and published during the class period, ArthroCare itself made two significant corrective disclosures during the class period while its stock was traded on the NASDAQ exchange, and one additional disclosure that ended the class period on February 18, 2009. ArthroCare's two restatement announcements on July 21, 2008 and December 19, 2008 contain partially corrective disclosures that provided the market with the partial truth about ArthroCare's business relationship with DiscoCare, and the fact that ArthroCare's previous publicly filed financial statements reflected improper accounting and were materially false and had to be pulled. Trading volume on these two restatement announcement dates is considerably above the average trading volume in ArthroCare stock, and the nature and information content of the restatement announcements directly and materially affected investor perceptions of the value of ArthroCare stock. Plaintiffs' claims in this matter include claims related to ArthroCare's concealment of the true business relationship between ArthroCare and

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DiscoCare and reliance on ArthroCare's publicly filed financial statements that turned out to be false. ArthroCare's restatement announcements provided the market with partial truth about ArthroCare's business relationship with DiscoCare and the fact that its previously filed financial statements were materially false and had to be restated.

The main subjects of the corrective disclosures contained in ArthroCare's two class period restatement announcements that the market used to revalue ArthroCare's stock at and around the restatement dates are part of plaintiffs' claims in this matter, therefore ArthroCare's stock price declines on the dates of these two restatement announcements are clearly relevant to the calculation of damages suffered by the class.

40. We used the daily trading volume of ArthroCare stock to determine other days on which the market may have processed material information regarding the value of ArthroCare stock. Published research in finance supports the notion that trading volume is a good proxy for information content on a given trading day.

41. We collected daily reported trading volume information on ArthroCare stock for full years 2006 – 2008, and the beginning of 2009 through the end of the class period, February 18, 2009. We calculated the daily turnover percentage for ArthroCare stock as *Turnover Percentage = Reported Daily Trading Volume / Total Shares Outstanding*.

Chart 1 below shows ArthroCare's daily turnover percentage for the period from the

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beginning of 2006 through 2/18/09, the end of the class period.

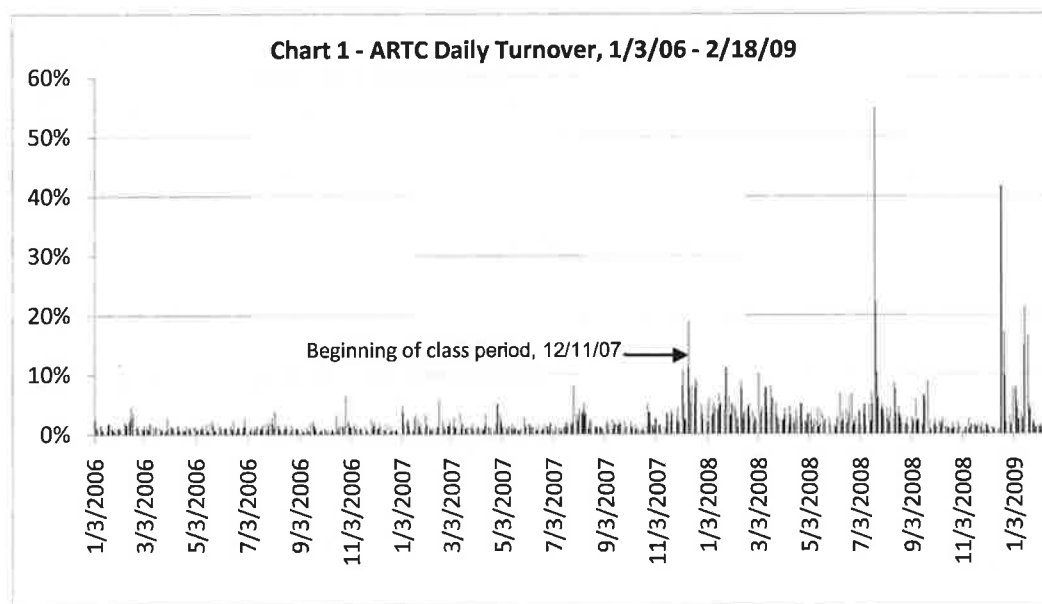


Chart 1 shows that reported trading volume in ArthroCare stock increased during the class period above the level it had been in 2006 and 2007. Increased trading volume is generally seen as an indication that the market is processing increasing amounts of information that are material to the value of the stock.

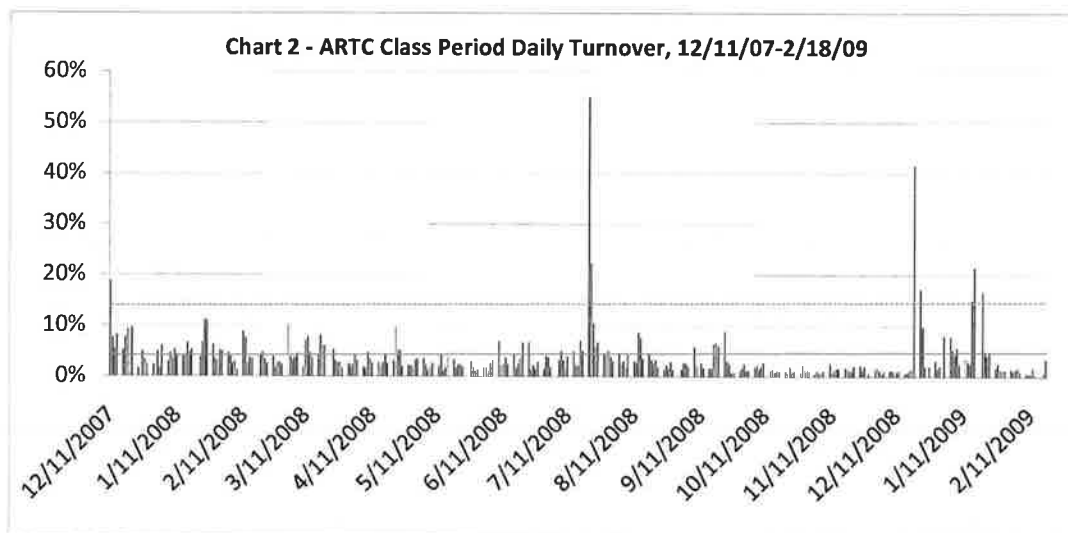
42. Volatility measures also indicate that the volatility of ArthroCare stock was higher during the class period than it was in the roughly two years preceding the class period. We calculated volatility as the standard deviation of ArthroCare's daily stock returns. Annualized volatility of ArthroCare's stock returns in 2006 is 27%, in pre-class period 2007 (1/3/07-12/10/07) volatility is 34%, and over the class period 12/11/07 – 2/18/09 volatility is 121%.

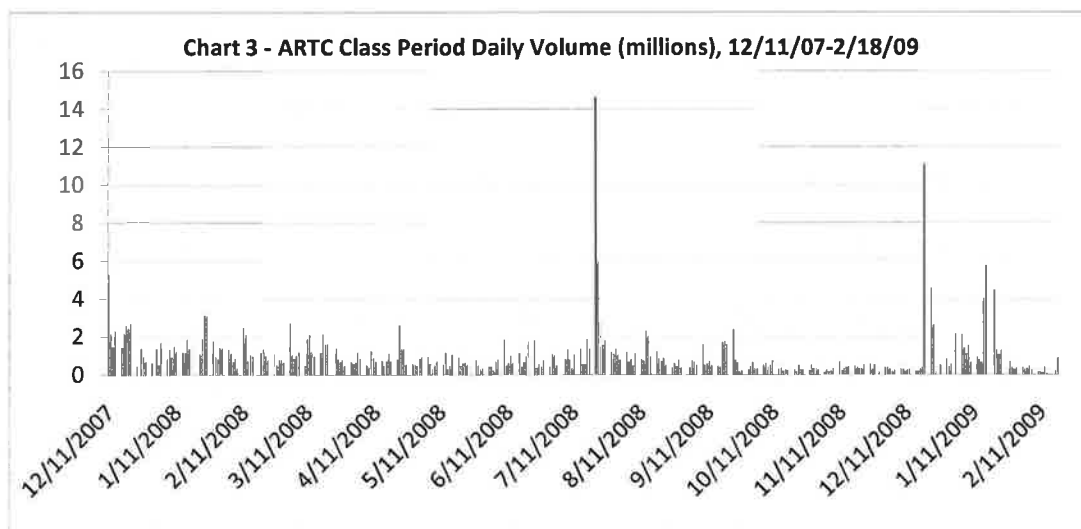
43. We calculated the mean and standard deviation of daily turnover in ArthroCare stock over the class period 12/11/07 – 2/18/09. Using these turnover calculations based on daily trading volume and the two standard deviation threshold, we identified eight

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trading days in the class period with daily turnover more than two standard deviations above the mean daily turnover, including the two restatement announcement dates.

Measures more than two standard deviations from the mean are generally interpreted as abnormal or significant. Chart 2 presents daily turnover for ArthroCare stock during the class period, along with the mean daily turnover (3.8%), and the +2 standard deviation threshold (13.5%). Significant volume days are defined as days with turnover in excess of two standard deviations above the mean. Chart 3, presented directly below Chart 2, shows daily trading volume over the class period in millions of shares.



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44. The class period volume analysis shows eight days with significant volume and turnover in excess of two standard deviations above the mean turnover during the class period. I studied analyst reports and news stories on and right around the dates of the eight significant volume days to determine the information considered by the market and reflected in ArthroCare's stock price change on the significant volume days. I found news stories and analyst reports with material information regarding ArthroCare's stock value on all eight significant volume days. The news items for each of these eight significant news and volume days are described below.

45. December 11, 2007 – New York Post publication containing questions about the business relationship between ArthroCare and DiscoCare, and the role played by DiscoCare in the growth of ArthroCare's spinal unit. Trading volume on this day was 5.27 million shares, more than ten times (10X) larger than the pre-period 2007 average daily trading volume of 485 thousand shares, and ArthroCare's stock price declined by \$2.19.

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46. July 21, 2008 – ArthroCare’s first class period restatement announcement. ArthroCare’s first restatement announcement stated that the firm will “restate its financial statements for the years ended December 31, 2006 and 2007, the quarters ended September 30, 2006, December 31, 2006, each of the quarters of 2007 and the quarter ended March 31, 2008, as a result of the determination by the Audit Committee of the Board of Directors on July 20, 2008, that the financial statement for such periods can no longer be relied upon.” In ArthroCare’s July 21, 2008, restatement announcement news release, the first reason cited for management’s recommendation that previously issued financial statements needed to be restated starts with “the relationship between the Company and DiscoCare...” The full restatement news release further describes revenue recognition issues and selling expense categorization related to ArthroCare’s accounting for sales to DiscoCare and three other distributors. The restatement also states that, “While the restatement is being completed, the Audit Committee will oversee a review of the scope and nature of the Company’s internal controls.” Additionally, the restatement states, “Management estimates that the restatement will result in material reductions in operating income and net income for the annual and quarterly period being restated.” Trading volume in ArthroCare stock on July 21, 2008 was very heavy at 14.6 million shares, more than thirty times (30X) larger than the pre-period 2007 average daily trading volume, and ArthroCare’s stock price declined by \$16.82 (-42%).
47. July 22, 2008 – I could not find any news on July 22, 2008, unrelated to ArthroCare’s restatement announcement of the previous trading day, July 21, 2008. News stories and analyst reports dated July 22, 2008, generally contained more detailed analysis of ArthroCare’s restatement announcement than the news stories printed on the date of the

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restatement, but the analyst reporting and news stories continued to focus on the restatement announcement of the previous day, July 21, 2008. Trading volume in ArthroCare stock was heavy on July 22, 2008 at almost 6 million shares traded (5.9 million), but ArthroCare's stock price change was relatively small, showing a slight gain on the day of 88 cents (\$0.88).

48. December 19, 2008 – ArthroCare's second class period restatement announcement.⁵³ In ArthroCare's restatement announcement on December 19, 2008, ArthroCare expanded the periods covered by the previously announced restatement to cover all fiscal years back to 2000, announced the resignation of three officers of the Company, including Michael Gluk, CFO, and announced the receipt of two subpoenas for the production of documents relating to DiscoCare. As described in paragraphs 33 and 34 previously in this report, the reaction of stock analysts to ArthroCare's second restatement announcement was extremely negative. Trading volume in ArthroCare stock on December 19, 2008, was very heavy at 11.1 million shares, almost twenty-three times (23X) larger than the pre-period 2007 average daily trading volume, and ArthroCare's stock price declined by \$10.31 (-64%).

49. December 22, 2008 – Similar to the first restatement, I could find no news stories on December 22, 2008, unrelated to ArthroCare's restatement announcement of the previous trading day, Friday, December 19, 2008. A story titled "ArthroCare falls on restatement uncertainty" with byline Marley Seaman, AP Health Writer, published near the close of trading on December 22, 2008, attributed ArthroCare's continued stock

⁵³ ArthroCare News Release, December 19, 2008, "ArthroCare Announces Expansion of Periods Covered by Restatement of Financial Statements and Withdrawal of Previously Disclosed Anticipated Adjustments; Management Changes; Subpoenas for Production of Documents", DEKALB002688-91.

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decline on December 22, 2008, to ArthroCare's restatement announcement of December 19, 2008.⁵⁴ The first sentence of the article states, "Shares of ArthroCare Corp. continued to slide Monday, a day after the surgical products maker both extended and broadened a restatement of its past sales, leaving questions swirling around ArthroCare's results over the past eight years." Trading volume in ArthroCare stock on December 22, 2008, was 4.6 million shares, almost ten times (10X) larger than the pre-period 2007 average daily trading volume, and ArthroCare's stock price declined by \$1.40 (-24%).

50. Over the two consecutive trading days December 19, 2008 and December 22, 2008, more than 15 million shares of ArthroCare stock traded, and ArthroCare stock declined \$11.71, representing a 72% decline from the closing price of \$16.23 on December 18, 2008, just prior to the second restatement announcement. In my view, the severity of ArthroCare's second restatement announcement on December 19, 2008 could very reasonably lead to significant stock price reactions on both the announcement day and the following day, and the heavy volume on December 22, 2008, shows the market was clearly processing material information about ArthroCare's stock value on that date. ArthroCare stock closed at \$4.52 on December 22, 2008.

51. January 15, 2009 – ArthroCare announces receipt of NASDAQ delisting notice, and the fact that delisting would constitute an event of default under the Company's credit agreement with a group of banks. The news release by ArthroCare stated that the NASDAQ Listing Qualification Panel was suspending and delisting the Company's common stock on the NASDAQ, and that ArthroCare's stock would subsequently be

⁵⁴ Associated Press, Marley Seaman, AP Health Writer, December 22, 2006, 14:20, "ArthroCare falls on restatement uncertainty: ArthroCare skid continues on questions about post-2000 results and investigation", DEKALB01157.

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quoted on the “Pink Sheets” under the trading symbol “ARTC.PK.” Trading volume in ArthroCare stock on January 15, 2009, was heavy at 4.0 million shares, a little over eight times (8X) larger than the pre-class period 2007 average daily trading volume, and ArthroCare’s stock price declined by \$1.78 (-22%).

52. January 16, 2009 – first day that ArthroCare stock started trading on the pink sheets.

The only news item I could find on this date was a short story appearing on StreetInsider.com reporting that ArthroCare stock was down 13% trading on the pink sheets, and that ArthroCare had been removed from the S&P SmallCap 600. Williams Capital Group, a stock analyst firm that had followed and reported on ArthroCare both before and throughout the class period, announced that it was dropping coverage of ArthroCare due to the NASDAQ delisting.⁵⁵ Trading volume in ArthroCare stock on January 16, 2009, was heavy at 5.7 million shares, almost twelve times (12X) larger than the pre-class period 2007 average daily trading volume, and ArthroCare’s stock price declined by \$1.82 (-29%).

53. January 20, 2009 – ArthroCare filed an 8-K reporting that the company had received a waiver of default signed by their lenders, and restating the notice of delisting first announced in the news release on January 15, 2009. Canaccord Adams, a stock analyst firm that had followed and reported on ArthroCare throughout the class period, included a report on ArthroCare in their Q408 Life Sciences – Biomedical Devices and Services Quarterly Review. The Canaccord report primarily contained a summary of recent events for ArthroCare, and said that Canaccord had pulled their financial estimates for ArthroCare given their “inability to rely on any financial statements the company has

⁵⁵ Williams Capital Group, January 16, 2009, “ArthroCare – Dropping Coverage due to NASDAQ Delisting”, WCG 00315-17.

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reported since Q1/00.”⁵⁶ The Canaccord Adams piece on January 20, 2009, also comments on the possibility of shareholder lawsuits, saying,

We believe it naïve to think that there will not be shareholder lawsuits brought against management or the board of directors. We would raise questions such as management selling significant shares at much higher prices, noting that the stock price was predicated on false financial statements.

Trading volume in ArthroCare stock on January 20, 2009, was heavy at 4.4 million shares, a little more than nine times (9X) larger than the pre-class period 2007 average daily trading volume, and ArthroCare’s stock price declined by \$1.30 (-29%).

54. Over the three consecutive trading days January 15, 16, and 20, 2009,⁵⁷ more than 14 million shares of ArthroCare stock traded, and ArthroCare stock declined \$4.90, representing a 61% decline from the closing price of \$8.02 on January 14, 2009, just prior to the delisting announcement and ArthroCare’s move from the NASDAQ to the pink sheets. ArthroCare was delisted from the NASDAQ as a result of the Company’s failure to timely file financial reports, and in my view this overall price decline associated with ArthroCare’s delisting is clearly related to plaintiffs’ claims of injury from ArthroCare’s filing of false financial statements.⁵⁸

Event Study Analysis and Estimation of Per Share Damages

55. Because each significant volume day has a news story containing material information regarding the value of ArthroCare stock related to plaintiffs’ claims in this matter, we

⁵⁶ Canaccord Adams, January 20, 2009, “Life Sciences – Biomedical Devices and Services: Q4/08 Quarterly Review – ArthroCare: Bad keeps getting worse?” pages 15 – 17, CAN 006430-32.

⁵⁷ The market was closed on January 19, 2009, in observance of MLK Day.

⁵⁸ ArthroCare 8-K, filed January 20, 2009, Item 3.01, DEKALB002301.

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conducted an event study analysis on the eight significant volume and news days to isolate and measure the change in ArthroCare's stock price associated with the information released on each date. The event study analysis uses the stock price of ArthroCare and measures the effect of news announcements on the value of the shares. Event study analysis is a widely accepted, peer-reviewed method for calculating the value effect of an event, and for quantifying damages suffered by shareholders from a corrective disclosure.⁵⁹ An event study analysis consists of first determining a statistical model to predict the normal or expected return on the stock, then using the model to measure abnormal performance (i.e., abnormal price movement). Because the event study analysis is based on a statistical prediction model for the stock, the model will identify price movements that are statistically significant, which are price moves that are statistically unlikely given the "normal" behavior of the stock predicted by the model. Further, the event study can isolate that part of the stock price change related only to the ArthroCare-specific news and unrelated to market or industry news and effects on that date.

56. We use a two-factor model in our event study analysis. The two-factor model uses the S&P 500 as one factor and an industry factor as the second factor. The industry factor we use is a market value-weighted index composed of seventeen firms identified in ArthroCare's proxy statement dated April 29, 2008. We use daily returns and an estimation period starting December 1, 2006, and running through November 30, 2007.

There are a total of 251 trading days in the estimation period, and the estimated two-

⁵⁹ David I. Tabak, PhD, and Frederick C. Dunbar, PhD, "Materiality and Magnitude: Event Studies in the Courtroom", *Litigation Services Handbook – The Role of the Financial Expert*, Third Edition, Edited by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, John Wiley & Sons, 2001.

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factor statistical model shows good overall fit measures with a statistically significant F statistic. The beta on the S&P factor is 0.40 and the beta on the industry factor is 0.39, and both betas are statistically significant at the 5% level.

57. Using the daily return on the S&P 500 and the return on the industry portfolio (i.e., the factor returns), the estimated statistical model for ArthroCare stock provides a measure of the expected return on ArthroCare stock on the significant news and volume days. The difference between the actual daily return on ArthroCare stock and the expected daily return on ArthroCare stock is a statistically valid measure of the ArthroCare stock return associated with the firm-specific news released on that day. This difference is known as the stock's "abnormal return".
58. The abnormal returns on ArthroCare stock measured using the event study methodology on the significant news and volume days are tested for statistical significance using the p-value on the abnormal return. The p-value is interpreted as the probability of witnessing a return equal to the event return given the "normal" behavior of the stock associated with the S&P 500 and industry factor as measured by the prediction model. Statistical significance is most typically defined as a p-value less than or equal to 0.05 (5%), but is sometimes extended to include p-values less than or equal to 0.10 (10%). For the eight significant news and volume days, I report p-values for a two-tailed test of whether or not the ArthroCare abnormal stock return on the event date is statistically significant.
59. Table 1 presents the dates of the eight significant news and volume days, the one-day total percentage return (raw return), the one-day percentage abnormal return on ArthroCare stock on that date, the one-day dollar abnormal return on that date

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(calculated as the one-day percentage abnormal return multiplied by the previous day's closing stock price), and the two-tail p-value on the one-day abnormal percentage return, where p-values less than 0.05 indicate statistical significance of the one-day abnormal return.

Table 1 – ARTC Abnormal Returns on Eight Significant News and Volume Days

<u>Count</u>	<u>Date</u>	<u>Raw Return</u>	<u>Abnormal Return (%)</u>	<u>Abnormal Return (\$)</u>	<u>p-value</u>
1	12/11/07	-4.2%	-2.3%	(\$1.22)	0.2096
2	7/21/08	-42.0%	-41.9%	(\$16.78)	0.0000
3	7/22/08	3.8%	2.7%	\$0.63	0.1416
4	12/19/08	-63.5%	-63.0%	(\$10.22)	0.0000
5	12/22/08	-23.6%	-22.5%	(\$1.33)	0.0000
6	1/15/09	-22.2%	-22.5%	(\$1.80)	0.0000
7	1/16/09	-29.2%	-29.7%	(\$1.86)	0.0000
8	1/20/09	-29.4%	-25.4%	(\$1.12)	0.0000

60. The stock return and statistical measures in Table 1 indicate that over the eight significant news and volume days studied, the abnormal returns on ArthroCare's stock are strongly statistically significant (p-values ≈ 0) on the first restatement announcement date, July 21, 2008, the second restatement announcement date and the trading day following, December 19, and 22, 2008, and the three consecutive trading days around ArthroCare's delisting from the NASDAQ and start of trading on the pink sheets, January 15, 16, and 20, 2009. The abnormal returns are not statistically significant on December 11, 2007, the date of the first New York Post story questioning the business

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relationship between ArthroCare and DiscoCare, and on July 22, 2008, the trading day following the first restatement announcement.

Calculation of Per Share Damages using Event Study Results

61. Per share damages to the class are calculated as the losses suffered by the class when the market learned the truth that management had concealed and misrepresented regarding ArthroCare's business relationship with DiscoCare, and the fact that ArthroCare's previous publicly filed financial results that investors had relied on were materially false and had to be restated. The market surely learned at least part of the truth regarding ArthroCare's relationship with DiscoCare and the fact of ArthroCare's improper accounting through ArthroCare's two restatement announcements in July and December 2008. Summing the statistically significant abnormal dollar returns across the three significant volume days at ArthroCare's two restatement announcements, July 21, 2008, and December 19 and 22, 2008, shows that the class of ArthroCare shareholders suffered per share damages of \$28.33 as a direct result of the corrective disclosures made by ArthroCare in their restatement announcements.
62. The class of ArthroCare shareholders suffered an additional statistically significant abnormal dollar return loss of \$4.78 over the three consecutive trading days January 15, 16, and 20, as a result of ArthroCare's delisting from the NASDAQ due to the company's failure to file timely financial reports. In my view, this statistically significant \$4.78 loss around ArthroCare's delisting date is a direct measure of at least part of plaintiffs' losses stemming from ArthroCare's improper accounting and filing of false financial statements. Including this \$4.78 loss associated with delisting with the

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\$28.33 loss associated with the corrective disclosures contained in the two restatement announcements in July and December 2008 produces an estimate of per share class damages of \$33.11. However, because many of the analysts covering ArthroCare had formally pulled coverage prior to the January 2009 delisting, or had simply stopped publishing reports on ArthroCare following the restatement announcements, along with the fact that ArthroCare stock was trading with no reliable financial statements after the second restatement announcement on December 19, 2008, I am not confident of the efficiency of the market in which ArthroCare stock was trading over the three trading days January 15, 16, and 20, 2009.

VI. Methodology and Bases for Opinion on Market Efficiency

63. The results of the event study show that ArthroCare stock reacted quickly to the arrival of new, material information regarding the value of ArthroCare stock. The heavy trading volume and the economically and statistically significant price reaction of ArthroCare stock on the dates of the restatement announcements containing material information regarding ArthroCare's value show that the market for ArthroCare stock was semi-strong form efficient. A semi-strong form efficient market is a market in which stock prices reflect all publicly available information, and stock prices react quickly to new material information (news) regarding stock value.

64. In addition to the observed stock price and volume reactions on the event dates containing material news regarding the value of ArthroCare stock, we also conducted an examination of the characteristics and structure of the market in which ArthroCare stock

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traded. The *Cammer* decision provides a set of criteria for assessing the efficiency of a market for a particular stock. We also looked at additional factors not included in the *Cammer* decision.

i) Trading Volume

65. Among the structural indicators of likely efficiency is the volume of trading in a particular security. The *Cammer* decision states that, “Turnover measured by average weekly trading of two percent or more of the outstanding shares would justify a strong presumption that the market for the security is an efficient one.”⁶⁰ Per *Cammer*, a large volume of weekly stock trades implies an efficient market in that many investors used corporate information as a basis for executing trades.⁶¹ The unadjusted average daily turnover rate for ArthroCare calculated using reported volume over the entire class period was 3.8 percent. This average daily turnover rate over the full class period implies a weekly turnover rate based on unadjusted volume of 19 percent (i.e., $5 \times 3.8 = 19\%$), and a weekly turnover rate of roughly 9.5% using a 50% reduction on the reported NASDAQ volume. The adjusted weekly turnover rate of 9.5% is well above 2% level cited in *Cammer* as an indication that the market for the security is efficient. During the interval between the first restatement announcement event date (July 21, 2008) and the second restatement announcement event date (December 19, 2008), turnover remained high, with a daily reported average of 2.5%, implying an unadjusted weekly turnover rate of 12.7%, and an adjusted weekly turnover rate of roughly 6%. Thus, trading

⁶⁰ See *Cammer v. Bloom*, 711 F. Supp. 1264, 1286 (D.N.J. 1989).

⁶¹ See *id.* p. 1286.

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volume over the entire class period supports my finding that the market for ArthroCare common stock was (semi-strong form) efficient.

ii) Security Analysts

66. The *Cammer* decision states, “it would be persuasive to allege a significant number of securities analysts followed and reported on a company’s stock during the class period.”⁶² *Cammer* goes on to state that the existence of analysts implies that company reports were closely reviewed and interpreted by investment analysts, who would make recommendations to investors based on the information contained in such reports.⁶³ I have read analyst reports from fifteen unique analysts that were filed during the 2004 through 2009 period, and all fifteen of these analysts published coverage during the class period. The number of security analysts following ArthroCare during the class period supports my finding that the market for ArthroCare was (semi-strong form) efficient.

iii) Market Makers and Arbitrageurs

67. The *Cammer* decision observes that, “[t]he existence of market makers and arbitrageurs would ensure completion of the market mechanism; these individuals would react swiftly to company news and reported financial results by buying or selling stock and driving it to a changed price level.”⁶⁴ From the beginning of the class period through the market close of January 15, 2009, ArthroCare was traded via the NASDAQ system. The NASDAQ system facilitates trades through market makers for each listed stock, providing competition for the best prices and lowest trading costs at any point in time.

⁶² See *id.* p. 1286.

⁶³ See *id.* p. 1286.

⁶⁴ See *id.* p. 1286, 1287.

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The NASDAQ market is generally viewed as well-functioning and efficient, and NASDAQ-listed companies include such household names as Intel, Microsoft, and Starbucks. The fact that ArthroCare was actively traded on the NASDAQ supports my finding that the market for ArthroCare was (semi-strong form) efficient, at least up until January 15, 2009, at which point ArthroCare's stock moved to the pink sheets.

iv) Form S-3 Eligibility

68. An indication of an efficient market in *Cammer* is the eligibility of the company to file Form S-3 with the SEC. The *Cammer* court found that eligibility to file a Form S-3 "is an important factor weighing in favor of a finding that a market is efficient."⁶⁵ *Cammer* quotes from an SEC release that: "[Form S-3] is predicated on the Commission's belief that the market operates efficiently for these companies, *i.e.*, that the disclosure in Exchange Act reports and other communications by the registrant, such as press releases, has already been disseminated and accounted for by the market place."⁶⁶ According to *Cammer*: "The 'public float' aspect of Form S-3 requirements ensures that enough investors have in fact read the previously filed document... It is this aspect of the Form S-3 requirements that calls into play the efficient market hypothesis."⁶⁷

69. At the time of *Cammer*, the filing of a Form S-3 registration statement required firms to file reports under the Securities Exchange Act of 1934 for three years prior to the Form S-3 filing and to have \$150 million of stock held by non-affiliates (or \$100 million of stock held by non-affiliates coupled with annual trading volume of 3 million shares per

⁶⁵ See *Cammer v. Bloom*, 711 F. Supp. 1264, 1285 (D.N.J. 1989).

⁶⁶ See *id.* p. 1287.

⁶⁷ See *id.* p. 1285 n.33. at 1291.

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year).⁶⁸ The SEC has since modified the requirements for filing a Form S-3. Among the current requirements for filing a Form S-3 registration statement are that a company be organized and operating under the laws of the United States or its territories, has filed reports under the Exchange Act for twelve calendar months, has suffered no default of its obligations and has an aggregate market value of common equity held by non-affiliates of \$75 million or more.⁶⁹

70. The value of ArthroCare's common stock held by non-affiliates during the Class Period ranged between approximately \$1.5 billion and \$83 million. While listed on the NASDAQ, the minimum value of ArthroCare's common stock held by non-affiliates during the Class Period was \$120 million. These values are all higher than the \$75 million threshold requirement of the S-3, significantly so for the class period prior to ArthroCare's delisting from the NASDAQ. ArthroCare was organized and operated under Delaware law during the Class Period, satisfying the organizational requirement, filed its required reports with the SEC, and was eligible to file a Form S-3 registration statement during the Class Period up to August 12, 2008, at which point ArthroCare filed a notification of inability to timely file Form 10-Q. For the remainder of the Class Period, ArthroCare did not meet this filing requirement.

v) Additional Factors

71. Additional factors that may be relevant in assessing the efficiency of the market for ArthroCare's common stock include: market capitalization, the bid-ask spread, and the

⁶⁸ See *id.* p. 1271.

⁶⁹ See SEC 1379, "Form S-3, Registration Statement under the Securities Act of 1933, General Instructions," as revised August 2001.

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“float” percentage. I provide data on each of these items in the following three subsections.

vi) Market Capitalization

72. Market capitalization of a company “may be an indicator of market efficiency because there is a greater incentive for stock purchasers to invest in more highly capitalized corporations.”⁷⁰ As of the beginning of the class period, ArthroCare’s market capitalization was approximately \$1.4 billion. This is larger than nine out of the twelve peer companies as listed in ArthroCare’s 2008 proxy statement that were publicly traded on that date.⁷¹ The *Cheney* and *Krogman* decisions state that market capitalization in the top sixty percent of the relevant sample group weighs in favor of market efficiency. Thus, ArthroCare’s large market capitalization supports the presumption that the market for ArthroCare stock was efficient.

vii) Bid-Ask Spread

73. The *Krogman* decision states that a “large bid-ask spread is indicative of an inefficient market, because it suggests that the stock is too expensive to trade.”⁷² In this decision, a spread equal to 5.6% of closing price suggested market inefficiency.⁷³ In *Cheney*, an average daily relative bid-ask spread of 2.4% weighed in favor of market efficiency.⁷⁴ Over the entire class period, the average daily bid-ask spread for ArthroCare’s common

⁷⁰ *Krogman v. Sterritt*, 202 F.R.D. (N.D. Tex. 2001), at 478 (citing *O’Neil v. Appel*, 165 F.R.D. 479 (W.D. Mich. 1996) at 503).

⁷¹ The peer group used here is the same as that used in the event study to construct the industry factor.

⁷² *Krogman*, 202 F.R.D. at 478.

⁷³ *See id.* p. 478.

⁷⁴ *Cheney*, 213 F.R.D. at 501.

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stock as a percentage of the closing price was 0.4%, significantly below even the average in *Cheney*. From the first day of the class period through the last day that ArthroCare was traded on the NASDAQ, the average bid-ask spread was 0.17%. It is also worth noting that during the interval between the first restatement announcement event date (July 21, 2008) and the second restatement announcement event date (December 19, 2008), the bid-ask spread remained low, with an average of 0.19%. For the portion of the class period during which ArthroCare was traded on the pink sheets (starting on January 16, 2009), the average bid-ask spread was noticeably higher, at 3.64%. These data support the presumption that the market for ArthroCare common stock was efficient, at least until it moved from the NASDAQ to the pink sheets.

viii) "Float" Percentage

74. The *Krogman* decision observes that "[i]n determining efficiency, courts also consider the percentage of shares held by the public, rather than insiders."⁷⁵ In the *Cheney* decision, 5% of shares outstanding held by insiders (i.e., a 95% float) was taken as supportive of the presumption of market efficiency. During the class period, ArthroCare had a float percentage comparable to the level cited in the *Cheney* decision. Per the last proxy statement filed before the beginning of the class period (filing date April 19, 2007), ArthroCare's float percentage was 94.8%. Per the only proxy statement filed during the class period (filing date April 29, 2008), ArthroCare's float percentage was 94%. These high float percentages support the presumption that the market for ArthroCare common stock was efficient during the class period.

⁷⁵ *Krogman*, 202 F.R.D. at 478 (citing *O'Neil*, 165 F.R.D. at 503).

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VII. Documents considered

75. A complete compilation of the documents and data I considered is being provided on DVD to defense counsel.

VIII. Potential Additional Analyses to Perform

76. My opinions are based on the information received and available as of the date of my report. I will consider any additional documents or information that becomes available after the date of this report. I will consider issues raised at my deposition. Any of this additional information may cause me to change my opinions, and I may supplement this report accordingly.

IX. Compensation

77. I am being compensated at a rate of \$500 per hour. Professor Jay Hartzell assisted me in my work on this matter, and he is being compensated at a rate of \$400 per hour.

I declare under penalty of perjury, 28 U.S.C. sec. 1746, that the foregoing is true and correct this 20th day of May, 2011 in Austin, Texas.



Greg Hallman